Firelands Regional Medical Center School of Nursing
AMSN 2023
Unit 6: Heart Failure online assignment (1.5H)

Directions:

- Read Lewis Chapter 34, review ATI Pharmacology Made Easy 4.0: Cardiovascular Module: Drug Therapy for Heart Failure, and review the Unit 6 Pharmacology List.
- Utilizing the resources above, complete the case study. There will be many items for each question.
- Utilizing the Pharmacology List and ATI/Skyscape, complete three ATI Medication Templates from the Pharmacology List.
- This assignment is due in the Unit 6: HF assignment drop box by March 13, 2023 at 0800.
- Be prepared to discuss this assignment in class.
- You must complete the assignment in full to receive the 1.5H theory credit.

Assignment Objectives:

- Determine overall goals in the treatment of heart failure.

**CASE STUDY:**

Frannie Failure, a patient on 4P, calls the nurse and states, "I feel really puffy. My rings feel so tight on my fingers and I am having trouble catching my breath." The patient is lying flat in the bed and is alert and oriented x 3. NS @ 125mL/HR running.

Assessment:

- Vital Signs: T 97.9 oral, HR 120, RR 24, SpO2 86% RA, BP 152/94, pain 0/10.
- Respiratory: Lung sounds- crackles throughout bilaterally, non-productive cough.
- Cardiac: Heart sounds- S3, pedal pulses not palpable, 3+ pitting edema bilateral feet and ankles.
- Skin intact, pale and cool.
- Gastrointestinal: Bowel sounds x4 WNL, BM yesterday morning.
- Intake/Output: Patient has had 900ml in and 200ml out.

1. **What additional information would you want to know**?

Additional information I would want to know includes the patient's history on any comorbidities, and when the symptoms first started. I would also want to do a physical examination and gather a daily weight.

2. **What assessment/ interventions would be appropriate for this patient?**

Assessment/interventions that are appropriate for this patient include oxygen to increase her SpO2, move her bed to High-Fowler's position, vital signs and urine output q1hr, and symptom management to keep the patient comfortable. I would encourage coughing and deep breathing in attempt to clear up some of the crackles heard on lung auscultation. I would assess for signs of fluid volume overload and record intake and output.

3. **What would you anticipate the healthcare provider to order?**

I would anticipate the healthcare provider to order an ECG, chest x-ray, labs including serum chemistries, cardiac biomarkers, BNP, liver function tests, thyroid function tests, CBC, lipid profile, kidney function tests, and urinalysis. I would also anticipate a possible cardiac catheterization and nuclear imaging studies.

4. **What medications would be appropriate for this patient (include all pertinent from the Pharmacology List) ? Doses? Nursing Interventions? <u>You will pick three of these medications to complete the ATI Medication Templates.</u>**

Medications that would be appropriate for this patient include beta blockers such as metoprolol succinate, carvedilol, or bisoprolol, loop diuretics such as furosemide or bumetanide, potassium-sparing diuretics including spironolactone, Neprilysin-Angiotension Receptor Inhibitors such as entresto, vasodilators including the nitrates which are isosorbide and nitroglycerin, ACE inhibitors, and digoxin.

**<u>Doses:</u>**

<u>Metoprolol Succinate:</u> PO 12.5-25 mg once daily of extended release, can be doubled every 2 weeks up to 200 mg/day

<u>Carvedilol:</u> 3.125 mg twice daily for 2 weeks; may be increased to 6.25 mg twice daily; dose may be doubled every 2 weeks as tolerated

<u>Bisoprolol:</u> 5 mg once daily, may be increased to 10 mg once daily

<u>Furosemide:</u> PO 20-80 mg/day as a single dose initially, may repeat in 6-8 hours; may increase dose by 20-40 mg every 6-8 hours until desired response. Maintenance doses may be given once or twice daily. IM, IV 20-40 mg, may repeat in 1-2 hours and increase by 20 mg every 1-2 hours until response is obtained; maintenance dose may be given every 6-12 hours

<u>Bumetanide:</u> PO 0.5-2 mg/day given in 1-2 doses; titrate to desired response; IM, IV 0.5-1 mg/dose, may repeat every 2-3 hours as needed

<u>Spironolactone:</u> PO 25 mg once daily, may then increase to 50 mg once daily

<u>Entresto:</u> Sacubitril 49 mg/valsartan 51 mg twice daily initially; double dose in 2-4 weeks to target dose of sacubitril 97 mg/valsartan 103 mg as tolerated

<u>Isosorbide Dinitrate:</u> PO 5-20 mg 2-3 times daily; usual maintenance dose is 10-40 mg every 6 hours

<u>Nitroglycerin:</u> PO 2.5-9 mg every 8-12 hours; SL 0.3-0.6 mg

<u>Captopril:</u> 25 mg 3 times daily; titrated up to target dose of 50 mg 3 times daily

Digoxin: PO 0.75-1.5 mg given as 50% of the dose initially and one quarter of the initial dose in each of 2 subsequent doses at 6-12-hour intervals; IM, IV 0.5-1 mg given as 50% of the dose initially and one quarter of the initial dose in each of 2 subsequent doses at 6-12-hour intervals

**Interventions:**

Metoprolol Succinate: Monitor heart rate and report rate slower than 60 beats/minute to provider; Monitor for signs of heart failure and report to provider; Teach client not to stop beta blocker suddenly; On discontinuation, taper dose slowly over 1 to 2 weeks

Carvedilol: Monitor BP and pulse frequently during dose adjustment period and periodically during therapy; Assess for orthostatic hypotension; Monitor intake and output ratios and daily weight; Assess patient routinely for evidence of fluid overload

Bisoprolol: Monitor BP, ECG, and pulse frequently; Monitor intake and output ratios and daily weights; Assess routinely for signs and symptoms of HF

Furosemide: Monitor serum electrolyte levels periodically, notify provider for abnormal levels; Monitor carefully for signs of electrolyte imbalance; If hypokalemia occurs, monitor for cardiac dysrhythmias; If hypokalemia is a risk, furosemide can be combined with a potassium-sparing diuretic; Monitor blood pressure frequently during treatment; Ensure that the client does not take other ototoxic drugs; Monitor for hearing loss, tinnitus, and vertigo; Monitor blood glucose periodically in all clients; Monitor blood glucose more frequently in clients who have diabetes mellitus,; Monitor uric acid levels periodically

Bumetanide: Assess fluid status during therapy; Monitor daily weight, intake and output rations, amount and location of edema, lung sounds, skin turgor, and mucous membranes; Notify HCP if thirst, dry mouth, lethargy, weakness, hypotension, or oliguria occurs; Monitor BP and pulse before and during administration; Assess for anorexia, nausea, vomiting, muscle cramps, paresthesia, and confusion; Assess for tinnitus and hearing loss; Assess allergy to sulfonamides

Spironolactone: Monitor serum potassium levels during treatment; If hyperkalemia occurs, monitor for cardiac dysrhythmias; May be combined with a thiazide or loop diuretic to maintain normal potassium levels; Monitor and report these endocrine effects

Entresto: Assess BP and pulse frequently; Monitor daily weight and assess routinely for resolution of fluid overload; Assess for signs of angioedema, discontinue if signs occur; Monitor renal function

Isosorbide: Avoid touching ointment when applying; Monitor length and severity of client headache; Monitor baseline BP and pulse, check again when nitrate form reaches its peak affect; Monitor heart rate in clients taking nitrates; Give beta blocker or calcium channel blocker to suppress tachycardia; Monitor for drug tolerance; Give any nitroglycerin form in smallest needed amount, use intermittent scheduling for transdermal and long-acting forms

Nitroglycerin: Avoid touching ointment when applying; Monitor length and severity of client headache; Monitor baseline BP and pulse, check again when nitrate form reaches its peak affect; Monitor heart rate in clients taking nitrates; Give beta blocker or calcium channel blocker to suppress tachycardia; Monitor for drug tolerance; Give any nitroglycerin form in smallest needed amount, use intermittent scheduling for transdermal and long-acting forms

Captopril: Start with low dose and gradually increase to prevent hypotension; Diuretics may be temporarily stopped before first dose; Monitor BP following first dose; Manage severe hypotension by expanding blood volume with IV fluid therapy; Monitor for and report dry cough; Discontinue use if dry cough occurs; Treat severe angioedema with IV epinephrine; Discontinue use if angioedema occurs; Monitor potassium levels in clients who are at risk; Monitor WBC with differential every 2 weeks for first 3 months of therapy and then periodically

Digoxin: Monitor apical pulse for 1 full minute before administering; Withhold dose is <60 bpm; Monitor BP periodically in patients receiving IV form; Monitor intake and output ratios and daily weights; Assess for peripheral edema and auscultate lungs for rales/crackles; Evaluate serum electrolyte levels and renal and hepatic function periodically during therapy

5. **What patient education would you include?**

I would educate on dietary therapy, activity, health promotion, rest, and drug therapy. For dietary therapy, I would educate to consult the diet plan and list of permitted and restricted foods, avoid using salt when preparing foods or adding salts to foods, weigh yourself at the same time each day, preferably in the morning, and eat small, frequent meals. For activity, I would educate to increase walking and other activities gradually, consider a cardiac rehabilitation program, and avoid extremes of heat and cold. I would educate on ongoing monitoring, which includes knowing signs and symptoms of worsening HF, and symptoms to report to the HCP such as weight gain of 3lb in a week, fatigue, weakness, dry cough, swelling of ankles, feet, abdomen, or face, and difficulty breathing. For health promotion, I would educate on obtaining the flu and pneumococcal vaccine and developing a plan to reduce risk factors. For rest, I would educate on planning a regular daily rest and activity program, after exertion, such as exercise and ADLs, plan a rest period, consider shorter working hours, and avoid emotional upsets. I would educate on each medication, what it is for, why they are taking it, and how to take it. I will also educate on what signs and symptoms should be reported.